

**REMARKS**

Claims 8-22 were previously pending in the application. Claims 8-22 remain unchanged. Claims 8 and 14 are independent.

**The Claimed Invention**

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 8, is directed to a bellows-type collar for washing machines wherein the bellows-type collar comprises an inner, a central and an outer collar ring and is sealingly fixed to both the machine housing and the lye container in the area of the loading opening, and the inner collar ring is visible through a closure of the loading opening, wherein an annular stiffening element comprising a thickened area of the bellows-type collar is assigned to the visible inner collar ring, which stiffening element reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, and a non-visible section of the bellows-type collar, wherein an articulated section is disposed in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section.

Another exemplary embodiment of the claimed invention, as recited by, for example, independent claim 14, is directed to a washing machine comprising a bellows-type collar at least partially surrounding the frontal loading opening, the bellows-type collar comprising an inner collar ring including an inner fixed edge coupled to the housing and extending inwardly toward the drum to an inner free edge, an outer collar ring disposed radially outwardly from the inner collar ring and including an outer fixed edge sealingly coupled to the lye container and extending outwardly toward the housing to an outer free edge, a central collar ring extending between the inner free edge and the outer free edge, and an annular stiffening element including an articulated section disposed near the inner free edge and restricting the spread of deformation forces from the central and outer collar ring on to the inner collar ring.

In conventional washing machines, any deformation of the collar, especially the inner collar ring, is clearly visible during spinning, which results in an ugly impression

and may result in the user having the impression that the washing machine is not working correctly and cannot cope with the load of laundry. In addition, the creasing of the inner collar ring may result in noise known as so-called collar flapping occurring in the immediate vicinity of the transparent container, which may be disturbing to the user.

In stark contrast, the present invention provides an annular stiffening element to the visible inner collar ring, which reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar visible to the user and reducing the accompanying noise during the operating state of a washing machine. See, e.g., page 2, lines 1-26.

### **The Rejections under 35 U.S.C. § 103**

In the Office Action, claims 8, 10, 14-16, and 17-21 rejected under 35 U.S.C. § 103(a) as being unpatentable over the Kim et al reference (U.S. Pub. 2004/0103693) in view of the Valent reference (U.S. Patent No. 5,860,300). Claims 9 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kim et al reference, the Valent reference, and further in view of the Deuring reference (U.S. Patent No. 4,826,180).

Applicants respectfully request withdrawal of these rejections.

### **The Rejection over the Kim et al reference and the Valent reference**

With respect to the rejection over the Kim et al reference in view of the Valent reference, Applicants respectfully traverse this rejection.

Applicants respectfully submit that none of the applied references discloses or suggests the features of the claimed invention including a bellows-type collar for washing machines wherein the bellows-type collar comprises an inner, a central and an outer collar ring and is sealingly fixed to both the machine housing and the lye container in the area of the loading opening, and the inner collar ring is visible through a closure of the loading opening, wherein an annular stiffening element comprising a thickened area of the bellows-type collar is assigned to the visible inner collar ring, which stiffening element reduces any spreading of deformation forces from the central and outer collar

ring on to the inner collar ring, and a non-visible section of the bellows-type collar, wherein an articulated section is disposed in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section, as recited in independent claim 8.

As explained above, these features are important for providing an annular stiffening element to the visible inner collar ring, which reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar visible to the user and reducing the accompanying noise during the operating state of a washing machine.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. (M.P.E.P. § 2141.02(I)). Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to modify the Kim et al reference to include the features of the Valent reference in order to arrive at the claimed invention as a whole.

The Kim et al reference very clearly does not teach or suggest the features of independent claims 8 and 14. Indeed, the Office Action specifically acknowledges that the Kim et al reference fails to teach all of the features of these claims.

The Kim et al reference teaches annular stiffening elements 531, which are located either within the inner collar 511 or within the outer collar 513. The annular stiffening elements 531 do not reduce or prevent the spreading of deformation forces from the central and outer collar ring on to the inner collar ring. In the first instance, the annular stiffening elements 531 cannot act to keep deformation from spreading from the central collar 512 and outer collar 513 to the inner collar 511 because they are disposed within the inner collar 511. In the second instance, the annular stiffening element 531 cannot reduce or prevent the spreading of deformation forces from the central collar 512 and outer collar 513 to the inner collar 511 because it is located on the outer collar 513, far away from the central collar 512 and inner collar 511. Thus, the Kim et al reference clearly does not prevent or contemplate preventing the spreading of deformation forces

from the central and outer collar ring on to the inner collar ring, as in the present invention.

The Valent reference does not remedy the deficiencies of the Kim et al reference.

The Office Action (Page 3, first paragraph) specifically acknowledges that the Kim et al reference fails to teach an annular stiffening element comprising a thickened area of the bellows-type collar is assigned to the visible inner collar ring, as claimed.

To make up for the Kim et al reference failing to teach that the stiffening element is located on the central ring, the Office Action alleges that all of the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention, to have placed an annular stiffing element, which the Kim et al reference allegedly teaches on the central ring of the bellows below the connection point of the inner and central ring of apparatus the Kim et al reference to prevent the deformation of the central ring of the bellows.

Contrary to the assertions in the Office Action, Applicants respectfully submit that all of the claimed elements clearly were not known or contemplated in the prior art and one skilled in the art could not have combined the elements as claimed by known methods with no change in their respective functions.

The Valent reference discloses bellows (i.e., folds 16) in which multiple folds follow each other in series in a direction of a rotational axis of the drum. In contrast, the bellows of the Kim et al reference are Z-type bellows that extend radially and orthogonally from the rotational axis. Thus, the Valent reference discloses a completely different kind of bellows-type collar than the bellows of the Kim et al reference. One of ordinary skill in the art would not have had an apparent reason to combine the features of the axial bellows of the Valent reference with the Z-type bellows of the Kim et al reference. Indeed, one skilled in the art could not have combined the elements as claimed by known methods with no change in their respective functions. The alleged combination would necessitate extensive modifications to the overall design of the

references, particularly since these references are directed to completely different bellow types.

Assuming in arguendo that these references would have been combined, Applicants respectfully submit that the Valent reference fails to make up for the deficiencies of the Kim et al reference. Contrary to the assertions in the Office Action, neither the Kim et al. reference nor the Valent reference teaches or suggests anything at all that is even remotely related to an articulated section disposed in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section, as recited in independent claim 8.

With the exception of the annular stiffening elements 531, the Kim et al. reference has a constant thickness without any considerable variation. The annular stiffening elements 531 are distributed far away from each other and do not define something which could be reasonably understood to constitute an articulation.

In the Valent reference, the axial bellows 16 are enclosed between the inner end 14 and cylindrical band 15. The elements 14 and 15 do not function as bellows since these elements have a thickness that is much greater than the thickness of the bellows 16. As shown in Figure 4, the transition from bellows 16 to each of the elements 14 and 15 is smooth and without any sections that could function like the articulated section of the present invention. Each section has a fairly constant thickness, and there is no structure, not even the transitional region between items 15 and 16, which could be reasonably understood to constitute an articulation. An articulation properly understood is a section where two parts are joined to each other in a way that these parts may swivel relative to each other at the articulation.

Thus, neither the Kim et al. reference nor the Valent reference teaches or suggests an articulated section, as claimed.

In stark contrast to the teachings of the Kim et al. reference and the Valent reference, the present invention includes an inner, a central and an outer collar ring and is sealingly fixed to both the machine housing and the lye container in the area of the loading opening, and the inner collar ring is visible through a closure of the loading

opening, wherein an annular stiffening element comprising a thickened area of the bellows-type collar is assigned to the visible inner collar ring, which stiffening element reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, and a non-visible section of the bellows-type collar, wherein an articulated section is disposed in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section.

None of the applied references discloses or suggests at least these features of independent claims 8 and 14. As explained above, these features are important for providing an annular stiffening element to the visible inner collar ring, which reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar visible to the user and reducing the accompanying noise during the operating state of a washing machine.

Furthermore, the Office Action alleges that “it would have been obvious to one having ordinary skill in the art at the time the invention was made to have shifted the stiffening element from (sic) the inner or outer ring to the central ring bellow the connection point of the inner and central ring, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.”

M.P.E.P. § 2144.04 states that, if the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. [...] If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.

First, Applicants respectfully submit that the facts in the prior legal precedent being relied upon are not sufficiently similar to those in the present application under examination. Applicants respectfully submit that the alleged combination of the Kim et al reference with the Valent reference certainly would amount to more than a mere rearranging of parts. Indeed, the alleged combination would necessitate, at a minimum, extensive modifications to the overall design of the references, particularly since these

references are directed to completely different bellow types. Hence, the Office Action erroneously relies on prior legal precedent to support the obviousness rejection.

Second, Applicants clearly have demonstrated the criticality of the arrangement of the articulated section in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section in order to reduce the deformation of the bellows-type collar visible to the user and reduce the accompanying noise during the operating state of a washing machine. Hence, since Applicants have demonstrated the criticality of these features, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.

The Office Action (Page 3, last paragraph) also specifically acknowledges that the Kim et al reference fails to teach an articulated section connecting the nose (the connecting point of the central and inner collar) and the annular stiffing element located on the central collar. However, the Office Action asserts that it would have been obvious to one of ordinary skill in the art to have made an articulator section (a thinner material section) as taught by the Valent reference in the bellows collar connecting the nose and the annular stiffening element (thus a non-visible location) of the apparatus of the Kim et al reference to have different flexibility between the nose and the annular stiffening element. Specifically, the Office Action asserts that it would have been obvious matter of design choice to made the articulated section (the area of the central ring between the nose and the annular stiffening element) smaller than the nose or the annular stiffening element, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

As explained above, M.P.E.P. § 2144.04 states that, if the facts in a prior legal decision are sufficiently similar to those in an application under examination, the examiner may use the rationale used by the court. [...] If the applicant has demonstrated the criticality of a specific limitation, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection. M.P.E.P. § 2144.04 further states that “mere scaling up of a prior art process capable of being scaled up, if such were

the case, would not establish patentability in a claim to an old process so scaled.”

Additionally, M.P.E.P. § 2143.01 states that, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In *re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

First, Applicants respectfully submit that the facts in the prior legal precedent being relied upon are not sufficiently similar to those in the present application under examination since the alleged combination of the Kim et al reference with the Valent reference certainly would amount to more than a mere change in size. Indeed, the alleged combination would necessitate, at a minimum, extensive modifications to the overall design of the references, particularly since these references are directed to completely different bellows types. Hence, the Office Action erroneously relies on prior legal precedent to support the obviousness rejection.

Second, as explained above, Applicants clearly have demonstrated the criticality of the arrangement of the articulated section in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section in order to reduce the deformation of the bellows-type collar visible to the user and reduce the accompanying noise during the operating state of a washing machine. Hence, since Applicants have demonstrated the criticality of these features, it would not be appropriate to rely solely on case law as the rationale to support an obviousness rejection.

Third, in the present rejection, the alleged modification clearly does not require a mere scaling up or change in size of the overall device. Indeed, the Office Action appears to acknowledge this by asserting that only a *component* of the device changes size. As explained above, the Valent reference discloses bellows (i.e., folds 16) in which multiple folds follow each other in series in a direction of a rotational axis of the drum. In contrast, the bellows of the Kim et al reference are Z-type bellows that extend radially and orthogonally from the rotational axis. Thus, the Valent reference discloses a completely different kind of bellows-type collar than the bellows of the Kim et al reference. One of ordinary skill in the art would not have had an apparent reason to



combine the features of the axial bellows of the Valent reference with the Z-type bellows of the Kim et al reference. Thus, Applicants respectfully submit that the Office Action's reliance on the prior legal precedent clearly is misplaced and fails to support the obviousness rejection.

Fourth, M.P.E.P. § 2144.04 states that "the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device." In this case, the only difference between the prior art and the claimed invention clearly is NOT a recitation of relative dimensions of the claimed device. Furthermore, the device having the claimed arrangement of features and proportions clearly performs differently than the prior art device. Hence, the Office Action erroneously applies the prior legal precedent to attempt to support the present rejection.

Fifth, M.P.E.P. § 2143.01 states that, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In this case, the alleged shifting of the annular stiffening elements 531 of the Kim et al reference toward the central collar 512 would change the principle of operation of leakage preventing part 510. Indeed, since the leakage preventing part 510 of the Kim et al. reference is an injection-moulded single piece formed in accordance with conventional processes, the alleged shifting of the annular stiffening elements 531 would require an extensive redesign of the leakage preventing part 510 to ensure that the leakage preventing part 510 could be formed in a single piece and be extracted from the mould.

For at least the foregoing reasons, none of the applied references discloses or suggests the features of the claimed invention including a bellows-type collar for washing machines wherein the bellows-type collar comprises an inner, a central and an outer collar ring and is sealingly fixed to both the machine housing and the lye container in the

area of the loading opening, and the inner collar ring is visible through a closure of the loading opening, wherein an annular stiffening element comprising a thickened area of the bellows-type collar is assigned to the visible inner collar ring, which stiffening element reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, and a non-visible section of the bellows-type collar, wherein an articulated section is disposed in the non-visible section which promotes deformation of the bellows-type collar in said non-visible section, as recited in independent claim 8. As explained above, these features are important for providing an annular stiffening element to the visible inner collar ring, which reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar visible to the user and reducing the accompanying noise during the operating state of a washing machine.

Independent claim 14 recites somewhat similar features as independent claim 8. Applicants respectfully submit that the applied references also fail to disclose or suggest the subject matter defined by independent claim 14. For example, independent claim 14 is directed to a washing machine comprising a bellows-type collar at least partially surrounding the frontal loading opening, the bellows-type collar comprising an inner collar ring including an inner fixed edge coupled to the housing and extending inwardly toward the drum to an inner free edge, an outer collar ring disposed radially outwardly from the inner collar ring and including an outer fixed edge sealingly coupled to the lye container and extending outwardly toward the housing to an outer free edge, a central collar ring extending between the inner free edge and the outer free edge, and an annular stiffening element including an articulated section disposed near the inner free edge and restricting the spread of deformation forces from the central and outer collar ring on to the inner collar ring. For the same reasons as those set forth above with respect to claim 8, none of the applied references discloses or suggests the subject matter defined by independent claim 14.

Moreover, none of the applied references discloses or suggests all of the features of the dependent claims. For example, none of the references discloses the claimed

arrangement of the bead, the articulated section, and the nose as defined, for example, by dependent claims 15-22.

Applicants respectfully request withdrawal of this rejection.

**The Rejection over the Kim et al reference, the Valent reference, and the Deuring reference**

For at least the reasons set forth above, the alleged combination of the Kim et al reference and the Valent reference would not have been obvious and would not teach or suggest all of the features of independent claims 8 and 14. The Deuring reference does not remedy the deficiencies of the Kim et al reference and the Valent reference.

Indeed, the Deuring reference clearly is non-analogous art.

To qualify as analogous art, a reference must either be (1) within the field of Applicants endeavor, or if not, (2) the subject matter logically would have commended itself to an inventor's attention in considering his or her invention as a whole. See M.P.E.P. § 2141.01(a)(I) citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007).

In the present instance, the Deuring reference clearly is not within the field of Applicants' endeavor. The field of Applicants' endeavor is the field of washing machines, and more particularly, bellows-type collars for washing machines. In stark contrast, the Deuring reference is within the completely different and unrelated field of valve stem sealing assemblies for internal combustion engines. For at least the foregoing reasons, the Deuring reference clearly is not within the field of Applicants' endeavor.

As set forth above, a reference that is not within the field of Applicants endeavor may qualify as analogous art if the subject matter logically would have commended itself to an inventor's attention in considering his or her invention as a whole. See M.P.E.P. § 2141.01(a)(I) citing *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1397 (2007).

In the present instance, the subject matter of the Deuring reference logically would *not* have commended itself to an inventor's attention in considering his or her invention as a whole.

Properly considered as a whole, the present invention is directed to providing an annular stiffening element to the visible inner collar ring, which reduces any spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar that is visible to the user and reducing the accompanying noise during the operating state of a washing machine.

In stark contrast, the Deuring reference very clearly is concerned with the completely unrelated problem of facilitating the installation of valve stem seals during mass production, and for simultaneously reducing the installation costs for an assembly of valve actuating members in addition to a valve stem seal. See., e.g., col. 1, lines 44-48.

The subject matter of valve stem seals logically would *not* have commended itself to an inventor's attention in considering, as a whole, ways to reduce spreading of deformation forces from the central and outer collar ring on to the inner collar ring, thereby reducing the deformation of the bellows-type collar that is visible to the user and reducing the accompanying noise during the operating state of a washing machine.

For at least these reasons, the subject matter of the Deuring reference logically would *not* have commended itself to an inventor's attention in considering his or her invention as a whole, and therefore, the Deuring reference does not qualify as analogous art.

None of the applied references discloses or suggests the subject matter defined by claims 9 and 22.

Applicants respectfully request withdrawal of this rejection.

**CONCLUSION**

In view of the above, entry of the present Amendment and allowance of Claims 8-22 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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